

In re Application of GEIDL
Serial No. 09/993,331

Listing of the Claims:

1. (currently amended): In a computing device, a computer-implemented method for recognizing natural human input, the method comprising:
receiving, at a system component, natural input data directed to a field of an executing program, wherein the natural input data comprises an input other than textual input;
determining, external to the executing program, a context of the field;
locating biasing information based on the context of the field; and
providing a recognition result to the executing program, the recognition result biased by the biasing information and comprising at least one computer code corresponding to recognition of the natural input.
2. (original): The method of claim 1 wherein the biasing information comprises a factoid including at least one validation rule.
3. (original): The method of claim 2 wherein the factoid is developed based on communicating with the executing program.
4. (original): The method of claim 2 wherein providing a recognition result to the executing program includes providing the factoid to a recognition engine.

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5. (original): The method of claim 1 wherein the biasing information comprises a set of user bias data.
6. (original): The method of claim 5 further comprising, maintaining the set of user bias data in a user bias database, and retrieving the set of user bias data from the database by querying the database with a key that corresponds to the field.
7. (original): The method of claim 5 further comprising, harvesting the user bias data from at least one data store accessible to the computing device.
8. (original): The method of claim 5 wherein providing a recognition result to the executing program includes providing the set of user bias data to a recognition engine.
9. (original): The method of claim 1 wherein the biasing information comprises a factoid including at least one validation rule and a set of user bias data, and wherein providing a recognition result to the executing program includes providing the factoid and the set of user bias data to a recognition engine.
10. (original): The method of claim 1 wherein determining the context of the field includes generating a field signature.

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11. (original): The method of claim 10 wherein the field corresponds to a window, and wherein generating a field signature includes acquiring window attribute data.

12. (original): The method of claim 1 wherein determining the context of the field includes communicating with the executing program.

13. (original): The method of claim 1 wherein the natural input data comprises speech or handwriting data.

14. (original): A computer-readable medium having computer-executable instructions for performing the method of claim 1.

15. (currently amended): In a computing device having an executable program, a computer system comprising:

a human input recognition engine configured to convert natural input data to recognition results, wherein the natural input data comprises an input other than textual input, each recognition result comprising at least one computer code;

a field determination mechanism that determines field types in fields of executable programs;

at least one database that maintains biasing information for a plurality of field types, and

an input system configured to:

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- 1) receive natural input data directed to the field;
- 2) communicate with the field determination mechanism to obtain the field type of the field to which the natural input data is directed;
- 3) obtain biasing information from the database that corresponds to the field type;
- 4) communicate the natural input data and the biasing information to the recognition engine and receive the recognition result therefrom; and
- 5) provide to the executing program at least one computer code corresponding to the recognition result received from the recognition engine.

16. (original): The system of claim 15 wherein the field determination mechanism includes a field signature engine that generates a field signature corresponding to the field type based on characteristics of the field.

17. (original): The system of claim 16 wherein the characteristics of the field include text displayed proximate the field.

18. (original): The system of claim 15 wherein the natural input data comprises speech or handwriting data.

19. (original): The system of claim 15 wherein the at least one database of biasing information comprises a database of factoids, and wherein the input

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system communicates the biasing information including a factoid having at least one associated validation rule to the recognition engine.

20. (original): The system of claim 19 wherein the field determination mechanism includes a field signature engine that generates a field signature corresponding to the field type based on characteristics of the field, and wherein each of the factoids in the database are keyed by an index corresponding to the field signature.

21. (original): The system of claim 15 wherein the at least one database of biasing information comprises a database of sets of user bias data, and wherein the input system communicates the biasing information including a set of user bias data to the recognition engine.

22. (original): The system of claim 21, wherein the user bias data set communicated to the recognition engine is retrieved from the database of sets of user bias data based on the field type determined by the field determination mechanism.

23. (original): The system of claim 21 wherein the database is securely maintained on the computing device.

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24. (original): The system of claim 21 further comprising a data harvesting engine that obtains at least some of the user bias data from at least one data store accessible to the computing device.

25. (original): The system of claim 24 wherein the database of sets of user bias data includes at least some data that was not harvested by the harvesting engine.

26. (original): The system of claim 24 wherein the data harvesting engine operates as a background process.

27. (original): The system of claim 15 wherein the at least one database of biasing information comprises a first database of factoids and a second database of sets of user bias data, and wherein the input system communicates the biasing information including a factoid and a set of user bias data to the recognition engine.

28. (original): The system of claim 27 wherein the factoid and the user bias data are retrieved from their respective databases based on the field type.

29. (original): The system of claim 27 wherein the factoid includes information corresponding to at least one criterion with which the recognition result should comply.

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30. (currently amended): In a computing device, a system comprising:

- a field determination mechanism that determines a field type in an executable program and provides a factoid associated therewith;
- a database of biasing information including sets of user bias data corresponding to factoids;
- an input system configured to receive natural input data, to obtain a factoid from the field determination mechanism, and to obtain user bias data corresponding to the factoid, wherein the natural input data comprises an input other than textual input;
- a human input recognizer that converts natural input data to computer codes, the recognizer configured to receive the factoid, the user bias data and the natural input data from the input system and to provide a recognition result comprising a set of at least one computer code to the input system based on the natural input data, the factoid and the user bias data; and
- the input system returning data to the executable program that corresponds to the recognition result.

31. (original): The system of claim 30 wherein the field determination mechanism comprises a field signature engine that generates a field signature for the field type and a field mapping database that provides the factoid based on the field signature.

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32. (original): The system of claim 30 wherein the factoid includes information corresponding to at least one criterion with which the recognition result should comply.